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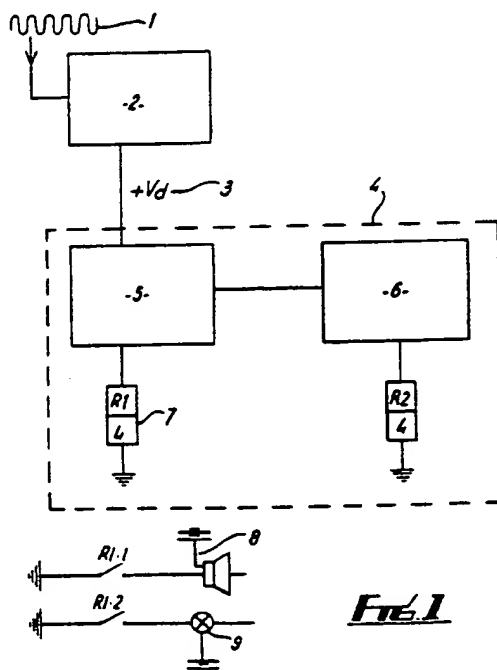
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(58) Field of search
UK CL (Edition J) **G4H**

(54) **Remote control apparatus**

(57) Remote control apparatus for use as vehicle tracing apparatus comprises a radio receiver (2) and associated control circuits (4). On receiving a signal the receiver (2) sends a signal (3) to the control circuitry (4) which triggers warning devices (8) and (9) and after a preset delay triggers an immobilisation device to immobilise the vehicle.



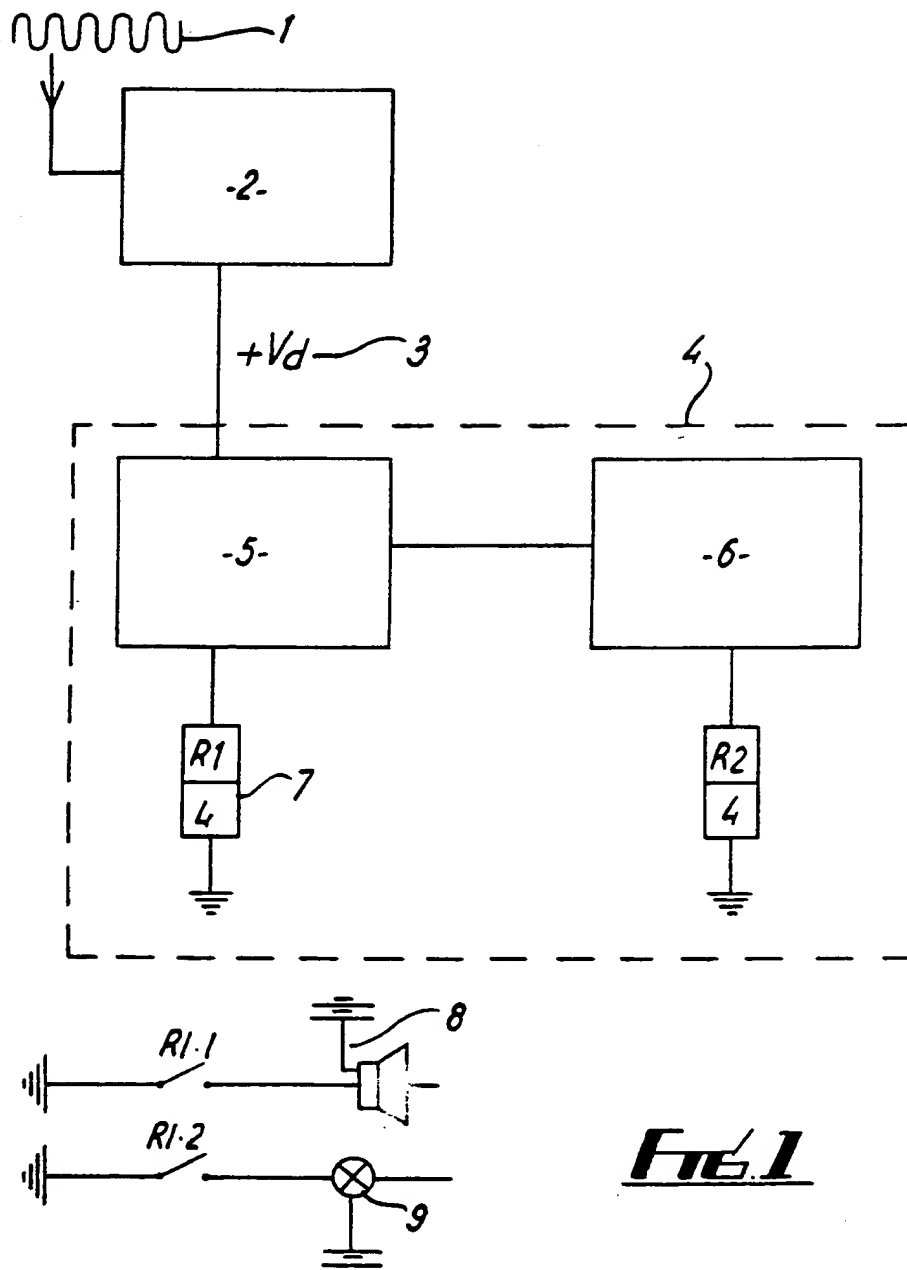
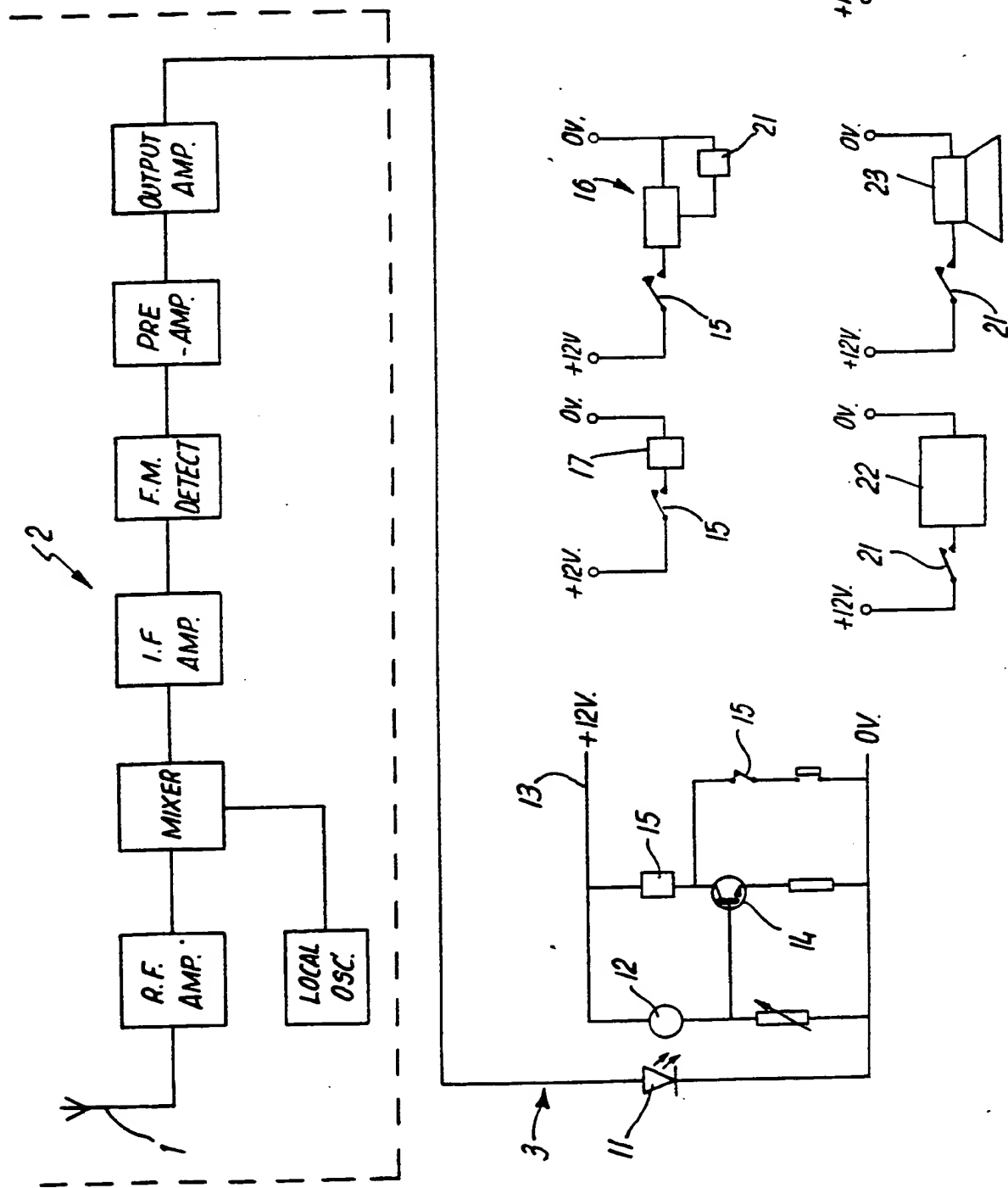


FIG. 1

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FIG. 2



1 "REMOTE CONTROL APPARATUS"

2

3 This invention relates to remote control apparatus
4 especially but not exclusively for use as vehicle
5 tracing apparatus.

6

7 Thefts of and from motor vehicles have become so
8 commonplace that it is now customary to fit alarm
9 systems to vehicles. In general these systems produce
10 an audible and visible warning when a vehicle is
11 tampered with. They may also include some means of
12 immobilisation and some sophisticated systems have been
13 proposed which include a radio transmitter which sets
14 off a remote alarm to alert a vehicle user that the
15 vehicle is being tampered with. All such systems
16 however have the drawback that their role is in
17 discouraging and going some way to preventing theft of
18 a vehicle. This means that should the vehicle actually
19 be stolen despite the alarm there is no way of
20 influencing it thereafter.

21

22 It is an object of the present invention to obviate or
23 mitigate this disadvantage.

24

25 According to the present invention there is provided

1 remote control apparatus for use as vehicle tracing
2 apparatus comprising a radio receiver on said vehicle
3 and control means operable by said radio receiver to
4 activate alarm means on said vehicle.

5
6 Preferably said radio receiver is operable by a signal
7 provided by a remote transmitter device.

8
9 Preferably also said alarm means comprises audible
10 and/or visual warning devices.

11
12 Said audible and visual warning devices may for example
13 be the vehicles hazard warning flashers, an interior
14 visual display unit and a horn or siren.

15
16 Preferably also the control means further includes
17 timer means operable after a preset delay to activate
18 immobilisation means for the vehicle.

19
20 Said immobilisation means may be means for interrupting
21 the ignition circuit or fuel supply of the vehicle.

22
23 The apparatus may be connectable to an external power
24 source such as the vehicle battery or powered from an
25 independent internal supply.

26
27 Preferably also manual reset means are provided for the
28 apparatus.

29
30 Embodiments of the present invention will now be
31 described by way of example with reference to the
32 accompanying drawing in which:-

33
34 Fig 1 is a schematic block diagram of one
35 embodiment of remote control apparatus in
36 accordance with the present invention; and

1 Fit 2 is a circuit diagram of the apparatus
2 of Fig 1.
3
4 Referring to the drawings remote control apparatus for
5 use as vehicle tracing apparatus is illustrated.
6 Referring first to the block diagram of Fig 1 the
7 apparatus comprises a receiving aerial 1 which is
8 connected to a radio receiver 2. The radio receiver 2
9 has an electrical output 3 which connects to control
10 circuitry shown generally at 4.
11
12 The control circuitry 4 comprises a main switching
13 circuit 5 and a timer circuit 6. The main switching
14 circuit 5 when activated operates the timer circuit 6
15 and a series of relays 7. The relays 7 switch audible
16 8 and visual 9 warning devices. The timer circuit 6,
17 operates a fourth relay 10 which controls an
18 immobilisation circuit of the vehicle.
19
20 In use the apparatus provides means of immobilising a
21 vehicle which has been stolen and provides an alarm
22 which draws attention to the fact that the vehicle has
23 been stolen. If a vehicle has been stolen the vehicle
24 user alerts the authorities who can operate a
25 transmitter which sends an appropriate coded signal
26 which is received by the radio receiver 2 on the
27 vehicle through the receiving aerial 1. The receiver 2
28 immediately sends an electrical signal 3 to the control
29 circuitry 4 and activates the main switching circuit 5.
30 The switching circuit 5 operates the relays 7 which
31 activate the audible warning device 8 and visual
32 warning device 9 which alert the occupants of the
33 vehicle that theft has been detected and draws external
34 attention to the vehicle. The switching circuit 5 also
35 operates the timer circuit 6 which after a preset delay
36 operates a further relay 10 which switches an

1 immobilisation circuit for the vehicle. The preset
2 delay is arranged so that the occupants of the vehicle
3 have sufficient time to stop the vehicle safely after
4 the initial warning before immobilisation takes effect.

5
6 A more detailed illustration of the apparatus is
7 provided in the circuit diagram of Fig 2. The
8 electrical output signal 3 from the receiver 2 drives a
9 LED 11 and the light output from the LED 11 operates an
10 optical switch 12 which is connected to a 12 volt
11 supply 13 and operates to drive a BC 107 transistor 14.
12 The transistor 14 in turn operates a relay 15. This
13 relay 15 operates a timer circuit 16, switches a
14 secondary relay 17, and has a third set of controls
15 which hold the relay 15 on.

16
17 The secondary relay 17 has two sets of contacts, one
18 which operates a flasher unit 18 which operates the
19 vehicles hazard warning lights 19, and one which
20 operates a visual display unit 20 in the vehicle which
21 warns the occupants that the vehicle has been stolen.

22
23 The timer circuit 16 can be preset to switch after a
24 desired time interval, for example between 5 seconds
25 and 20 minutes. After the timer circuit 16 switches it
26 operates a further relay 21 which has two sets of
27 contacts. The first contacts disconnect the power
28 supply to a fuel pump 22 and the second contacts
29 activate a warning siren 23.

30
31 A key lock, not shown, is provided to release relay 15
32 and so release the other relays. The power supply 13
33 may be derived from the vehicle battery or from a
34 separate power source.

35
36 The location of the vehicle could be determined using

1 the system also.

2

3 The apparatus described is by way of example only and
4 various other configurations may be provided to achieve
5 the same results. In addition the basic concept is not
6 limited to the provision of vehicle tracing apparatus.
7 For example the basic system can be adapted for use in
8 an industrial or domestic environment. The system can
9 be used to operate machinery, computers, facsimile
10 machines and telex machines remotely at any time. In
11 the domestic environment it can be used to operate
12 domestic appliances such as central heating systems,
13 cookers, lights, electric blinds etc. The system has
14 the advantage that it removes the restrictions which
15 surround preset timers commonly used at present and
16 allow an operator to choose the time at which equipment
17 is operated.

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19 Modifications and improvements may be incorporated
20 without departing from the scope of the invention.

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CLAIMS

1. Remote control apparatus for use as vehicle tracing apparatus comprising a radio receiver on said vehicle and control means operable by said radio receiver to activate alarm means on said vehicle.
2. Remote control apparatus as claimed in Claim 1, wherein the radio receiver is operable by a signal provided by a remote transmitter device.
3. Remote control apparatus as claimed in Claim 1 or 2, wherein the alarm means comprises audible and or visual warning devices.
4. Remote control apparatus as claimed in Claim 3, wherein an audible warning device in the form of a horn or siren is provided.
5. Remote control apparatus as claimed in Claim 3, wherein the visual warning devices comprise hazard warning flashers on the vehicle and/or an interior visual display device.
6. Remote control apparatus as claimed in any one of the preceding Claims, whereon the control means further includes timer means operable after a preset delay to activate immobilisation means for the vehicle.
7. Remote control apparatus as claimed in Claim 6, wherein the immobilisation means comprises means for interrupting the fuel or ignition supply of the vehicle.
8. Remote control apparatus as claimed in any one of the preceding Claims, wherein an independent power supply is provided for the apparatus.

9. Remote control apparatus as claimed in any one of the preceding Claims, wherein manually operable reset means are provided for the apparatus.
10. Remote control apparatus substantially as hereinbefore described, with reference to and as shown in the accompanying drawings.